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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,906	10/13/2005	Yasushi Nakayama	1188-0126PUS1	7846

2292 7590 07/21/2006

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EXAMINER
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LU, C CAIXIA

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/526,906

Applicant(s)

NAKAYAMA ET AL.

Examiner

Caixia Lu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.  
4a) Of the above claim(s) 4-9 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-3 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/7/05.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-3, in the reply filed on June 9, 2006 is acknowledged. The traversal is on the ground(s) that there is no reason to divide the catalyst from a compositing containing the catalyst. This is not incorrect since the current restriction is restricting the support of a catalyst from the supported catalyst composition. The support of the catalyst does not contain the catalyst.

The requirement is still deemed proper and is therefore made FINAL.

### ***Specification***

2. The disclosure is objected to because of the following informalities: Japanese is used in the disclosure on page 8. Appropriate correction is required.
3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kioka et al. (US 5,091,353).

Kioka teaches the preparation of a hydrocarbon solvent insoluble magnesium/aluminum solid complex support derived from a liquid magnesium compound and an organoaluminum compound (col. 7, lines 15-42). Kioka's Example 1 demonstrates the preparation of magnesium/aluminum solid support by reacting magnesium chloride, 2-ethylhexyl alcohol, triethyl aluminum at 80 °C to provide a solid product and then further treat the solid with diethyl aluminum chloride at 80 °C to provide the magnesium/aluminum solid support (col. 14, Example 1, and col. 20, Table 1). Kioka's magnesium/aluminum solid supports listed in Table 1 meet all of the limitations of the instant claims except the molar ratios of alkoxy/Al are in the range of 2.9 to 4.7 (calculated from the data of Table 1) rather than in the range of 0.05 to 2.0 of the instant claims. However, Kioka does teach the molar ratio of Al/Mg in the range of 0.05 to 1.0 in line 31 of col. 7. Therefore, when more of organoaluminum compound is used in the first and second organoaluminum compound treatments during the preparation of magnesium/aluminum solid support in Example 1, the molar ratio of Al/Mg would increase and the alkoxy/Al ratio would decrease.

Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ Kioka's teaching to prepare the magnesium/aluminum solid support with the molar ratio of Al/Mg near the high end of the range of 0.05 to 1.0 in order to maximize the cocatalyst content in the support since such is within the scope of Kioka's teaching and in the absence of any showing criticality and unexpected results. When the molar ratio of Al/Mg is near the high end of the range of 0.05 to 1.0, the molar ratio of alkoxy/Al of the support would be in the range of the instant claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.

A handwritten signature in black ink, appearing to read 'Caixia Lu'.

Caixia Lu, Ph. D.  
Primary Examiner